

09/445,710

OFFICIAL

points using alkali and carbon dioxide, Ostberg does not teach or suggest adding amounts of both alkali metal hydroxide and carbon dioxide in amounts greater than would be required to adjust the pH of the pulp suspension to a desired pH. For this reason, claims 1 and 11 as amended defines over Ostberg.

Claims 1 and 11 as amended also clarify "throughout the paper making" by requiring that the addition of the alkali metal hydroxide and carbon dioxide stabilizes the pH of the pulp suspension from the point of the feeds to the formation of paper in the paper machine.

In the previous Office action the Examiner found unconvincing the argument that alkali metal hydroxide and carbon dioxide are added to the pulp suspension regardless of the suspension's initial pH. As discussed above, the amendments to claims 1 and 11 clarify why the claimed invention defines over Ostberg. Both alkali metal hydroxide and carbon dioxide are added in a process step in amounts greater than would be required to adjust the pH to a desired pH level. The alkali metal hydroxide and carbon dioxide are added in this step in amounts that substantially nullify each other's effect on pH. Addition of alkali metal hydroxide and carbon dioxide in such amounts result in a greatly increased "alkalinity" or buffering effect, giving the pulp suspension a greater resistance to subsequent pH change than would be achieved by simply adjusting the pulp suspension's pH with one or the other as disclosed by Ostberg. For these reasons also claims 1 and 11 as amended defines over Ostberg.

The Examiner has also rejected claims 1-12 under 35 U.S.C. as obvious over Ostberg in view of GB 815,247. The Examiner points to the statement in '247 that NaOH can be added to a slurry before adding CO<sub>2</sub>. As discussed above, claims 1 and 11 require addition of alkaline metal hydroxide and carbon dioxide in amounts greater than what would be required to adjust the pH of the pulp suspension to a desired level. GB 815,247 does not, however, teach or suggest a adding both alkali metal hydroxide and carbon dioxide in amounts greater than is required to adjust the pH to a desired level. Furthermore, claims 1 and 11 require that a significant buffering effect and stabilization of the pH of the pulp suspension from the point of the feeds to the formation of the paper in the paper machine. GB 815,247 does not disclose a significant buffering effect and pH stabilization that lasts through formation of the paper in the paper machine. Any buffering achieved at this point in the '247 reference is

09/445,710

OFFICIAL

overcome in the subsequent bleaching and acidification steps. (See page 2, lines 51-112, especially lines 103-107.) For these reasons, claims 1 and 11 define over the combination of Ostberg and GB 815,247.

Claims depending from claims 1 and 11 define over Ostberg and over Ostberg in view of GB 815,247 for the reasons set forth above.

As all rejections from the Office action have now been addressed, applicant respectfully submits that the application is in condition for allowance. A notice of allowance is therefore respectfully requested. If there are any fees required by this communication, please charge such fees to our Deposit Account No. 16-0820, order No. 32107.

Respectfully submitted,  
PEARNE & GORDON LLP

By Brian Alan Bargmeyer  
Brian Alan Bargmeyer, Reg. No. 47,404

526 Superior Avenue East  
Suite 1200  
Cleveland, Ohio 44114  
(216) 579-1700

Date: March 6, 2002

09/445,710

OFFICIAL

Version of claims 1 and 11 showing changes

1. (Amended) A process for stabilizing the pH of a pulp suspension at a desired pH level in the stock preparation of a paper machine, characterized by increasing the alkalinity of said paper making pulp suspension by adding thereto a combination of an alkali metal hydroxide feed and a carbon dioxide feed, each of said feeds being added in an amount greater than what would be required to only adjust the pH of the suspension to the desired pH level, which feeds substantially counter each other's pH changing effect, said feeds being provided in an amount sufficient to achieve a significant buffering effect of said pulp suspension while enabling utilization of an excess of said hydroxide or said carbon dioxide for adjusting the pH of said pulp suspension and maintaining the pH at a desired level [throughout the paper making] from the addition of the feeds through the formation of paper on the paper machine.

disclose pH  
(7-9) ~~sub level~~  
App. of alkalis  
more of ?  
both

11. (Amended) A process for producing paper comprising

providing a paper making pulp suspension in the stock preparation of a paper machine;

increasing the alkalinity of said pulp suspension by adding thereto a combination of an alkali metal hydroxide feed and a carbon dioxide feed which feeds substantially counter each others pH changing effect,

forming said pulp suspension into a web, and

drying said web to form paper,

said feeds being provided in an amount greater than that required to adjust the pH of the pulp suspension to a desired level, and said feeds being provided in an amount sufficient to achieve a substantial buffering effect of said pulp suspension while enabling utilization of an excess of said hydroxide or said carbon dioxide for adjusting the pH of said pulp [suspension] suspension and for maintaining the pH at a desired level [throughout the paper making;] from the addition of the feeds to the formation of the pulp suspension into a web.

[forming said pulp suspension into a web; and

drying said web to form paper.]